[CLAIMS]

1. An oil damper for a drum type washing machine comprising:

a hollow cylinder having an oil chamber for filling oil therein;

a tub holder fixedly secured to one end of the cylinder for securing the damper to a tub side;

a shaft passed through, and exposed from the other end of the cylinder;

a base holder fixedly secured to the shaft at an end thereof exposed to an outside of the cylinder for securing the damper to a base side of the cabinet; and

a piston having a plurality of oil holes, for sliding inside of the cylinder,

wherein at least one of above components is formed by plastic injection molding.

2. The oil damper as claimed in claim 1, further comprising an O-ring between one end of the cylinder and the tub holder for preventing the oil from leaking from the inside of the cylinder.

3. The oil damper as claimed in claim 2, wherein the O-ring is mounted in a groove in a region spaced away from a thread portion on an inside circumferential surface of the tub holder for being compressed onto an outside circumferential surface of the cylinder when the tub holder is fastened to one end of the cylinder.

4. The oil damper as claimed in claim 1, wherein the outside circumferential surface of the one end of the cylinder and the inside circumferential surface of the tub holder have threads formed thereon respectively for joining with each other by thread fastening.

5. The oil damper as claimed in claim 1, wherein the end of the shaft

exposed to an outside of the cylinder is fastened to the base holder with threads.

6. The oil damper as claimed in claim 1, wherein the piston is fastened to the shaft with a bolt.

7. The oil damper as claimed in claim 1, wherein the piston includes a thin skirt portion on a circumference of the piston at a base holder side, the skirt having a diameter greater than an inside diameter of the cylinder.

8. The oil damper as claimed in claim 1, wherein the piston further includes at least one groove in an outside circumferential surface in a circumferential direction.

9. The oil damper as claimed in claim 1, wherein the cylinder and/or the piston are formed of a self lubricating resin, such as Teflon.

10. The oil damper as claimed in claim 1, wherein the cylinder and the piston, and the tub holder and the base holder are formed of thermoplastic resin having good heat resistance and chemical resistance, such as POM, PC, PBT, and polyacetal.

11. The oil damper as claimed in claim 1, wherein the shaft is formed of engineering plastic or fiber reinforced plastic.

12. The oil damper as claimed in claim 1, wherein the cylinder includes an oil seal for preventing oil from leaking and a bushing for supporting the piston to guide a linear motion of the piston, mounted in succession on an inside of the other end of the piston.

13. The oil damper as claimed in claim 12, wherein the other end of the piston has a stepped opening having diameters different from each other in an axial direction of the cylinder, wherein the metal bushing is press fit, and secured to a small diametered portion at the innermost side of the stepped opening, and the oil seal is mounted inside of a large diametered portion at an outer side of the stepped opening.

14. The oil damper as claimed in claim 13, wherein the bushing and the oil seal are spaced a predetermined distance away from each other in an axial direction, and the cylinder has a communication hole for making the oil chamber and the space between the bushing and the oil seal in communication.

15. The oil damper as claimed in claim 13, wherein the bushing is formed of copper or iron.

16. The oil damper as claimed in claim 13, wherein the bushing includes a surface inclusive of an inside circumferential surface coated with Teflon for improving a wear resistance.

17. The oil damper as claimed in claim 13, wherein the bushing is sintered and oil impregnated.

18. The oil damper as claimed in claim 13, wherein the oil seal includes a spring therein for applying a pressure in a direction the oil seal is in close contact with an outside circumferential surface of the shaft.

19. The oil damper as claimed in claim 13, wherein the oil seal further

includes at least one lip on an inside circumferential surface of the oil seal for making close contact with an outside circumferential surface of the shaft.

20. The oil damper as claimed in claim 13, wherein the cylinder further includes a stopper on an outer side of the oil seal for preventing the oil seal from falling off the cylinder.

21. The oil damper as claimed in claim 20, wherein the stopper is a C-ring.

22. The oil damper as claimed in claim 1, wherein the cylinder has a diameter greater on a tub holder side than on a base holder side to make a gap between the piston and the cylinder smaller on the base holder side for compensating for a reduced damping capability of the base holder side.

23. The oil damper as claimed in claim 1, wherein the shaft and the base holder are formed as one body.

24. The oil damper as claimed in claim 1, wherein the cylinder and the tub holder are formed as one body.

25. The oil damper as claimed in claim 1, wherein the shaft is formed of carbon steel.

26. The oil damper as claimed in claim 25, wherein the shaft is a salt bath nitriding processed under an high temperature environment higher than 500°C for preventing a surface thereof from rusting.

27. The oil damper as claimed in claim 25, wherein the shaft and the base

holder are fusion welded by using an ultrasonic wave or the like.

28. The oil damper as claimed in claim 25, wherein the shaft and the base holder are joined by fusion welding in a state a portion of the shaft to be joined with the base holder is formed to have a diameter greater than other portion.

29. The oil damper as claimed in claim 1, wherein the cylinder further includes an end portion of the base holder side melted to reduce a diameter thereof below a diameter of the oil seal, for preventing the oil seal from falling off the cylinder through the reduction of diameter of the cylinder itself.

30. An oil damper for a drum type washing machine comprising:

a hollow cylinder of a plastic injection molding having an oil chamber for filling oil therein;

a tub holder of a plastic injection molding fixedly secured to one end of the cylinder for securing the damper to a tub side;

a metal shaft passed through, and exposed from the other end of the cylinder;

a base holder of a plastic injection molding fixedly secured to the shaft at an end thereof exposed to an outside of the cylinder for securing the damper to a base side of the cabinet; and

a piston of a plastic injection molding joined with one end of the shaft having a plurality of oil holes, for sliding inside of the cylinder;

an O-ring mounted between the one end of the cylinder and the tub holder for preventing oil from leaking from an inside of the cylinder;

an oil seal mounted on an inside of the other end of the cylinder for preventing oil from leaking; and

a bushing on an inner side of the cylinder for supporting the piston and guiding

a linear motion of the piston.